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REMARKS

The November 18, 2005 Office Action was based on pending Claims 1–49. By this Response, Applicant is amending Claims 1, 31 and 40 and is cancelling Claims 23–30 and 48 without prejudice or disclaimer. Claims 2–22, 32–39, 41–47 and 49 remain as originally filed. Thus, after entry of the foregoing amendments, Claims 1–22, 31–47 and 49 are pending and presented for further consideration. In view of the foregoing amendments and the remarks set forth below, Applicant submits that Claims 1–22, 31–47 and 49 are in condition for allowance.

SUMMARY OF OBJECTIONS AND REJECTIONS

The November 18, 2005 Office Action objected to Claim 48 because of claim informalities.

The Office Action rejected Claims 1, 2, 4, 12, 14–16, 21, 23, 29, 31, 36 and 39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,711,667 to Ireton ("Ireton").

The Office Action rejected Claims 3, 5–11, 13, 17–20, 22, 24–28, 30, 32–35, 37, 38 and 40–49 under 35 U.S.C. § 103(a). In particular, Claims 3, 8, 9, 13, 18, 19, 24–26 and 32–34 were rejected as being unpatentable over Ireton in view of U.S. Patent No. 5,710,905 to Wan ("Wan"). Claims 5–7 and 22 were rejected as being unpatentable over Ireton in view of U.S. Patent No. 4,860,192 to Sach et al. ("Sach").

Furthermore, Claims 10, 11, 17, 20, 30, 35, 37, 40–46, 48 and 49 were rejected as being unpatentable over Ireton in view of U.S. Patent No. 5,764,946 to Tran et al. ("Tran"). Claims 27, 28 and 38 were rejected as being unpatentable over Ireton in view of U.S. Patent No. 6,085,291 to Hicks et al. ("Hicks"). Claim 47 was rejected as being unpatentable over Ireton in view of Tran and in further view of Hicks.

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Submitted concurrently herewith is a Supplemental Information Disclosure Statement citing eleven (11) references, which were cited during the prosecution of co-pending related U.S. patent applications. While Applicant does not believe that these references will affect the patentability of the pending claims, Applicant respectfully

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requests the Examiner to consider the pending claims in connection with these references in order to make them of record.

OBJECTION TO CLAIM 48 FOR CLAIM INFORMALITIES

By the foregoing amendments, Applicant has cancelled Claim 48 without prejudice or disclaimer.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(e)

The Office Action rejected Claims 1, 2, 4, 12, 14–16, 21, 31, 36 and 39 as being anticipated by U.S. Patent No. 6,711,667 to Ireton ("Ireton"). In view of the foregoing amendments and for at least the reasons set forth below, Applicant respectfully disagrees.

Independent Claim 1

With particular reference to amended Claim 1, one embodiment of Applicant's invention includes a method of searching a string of data for a match with a test data string. The method comprises receiving an instruction to perform a search operation, the instruction comprising a test data string and a starting address for the search operation. The method further includes routing the instruction to a data string manipulation circuit capable of performing string manipulation instructions and routing the starting address from the data string manipulation circuit to a cache memory array. The method also includes comparing the test data string with data stored in the cache memory array and routing an address of cached data matching the test data string to the data string manipulation circuit.

Ireton does not disclose the method of amended Claim 1. Rather, Ireton appears to disclose an instruction translation mechanism for microprocessors. As shown and described with reference to Figure 2 of Ireton, an instruction cache 12 includes an instruction fetch control 30 that forms and conveys a fetch address to both cache storage and control block 32 and storage control unit 24. Instructions corresponding to the fetch address are conveyed by the cache storage and control block 32 and storage control unit 24 to a selection circuit 34, which conveys a selected instruction to an instruction decode unit 14. See col. 5, lines 48–62.

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Ireton does not disclose receiving an instruction to perform a search operation, wherein the instruction includes **both** a starting address and a test data string. Rather, Ireton discloses the instruction fetch control 30 <u>forming only</u> a fetch address that is subsequently used to locate stored instructions based on a match of the address. Furthermore, the Office Action improperly reads the "fetch address" of Ireton to be both the "starting address" and the "test data string" as recited in Claim 1. Such an interpretation of "fetch address" is inconsistent and does not disclose the mention of Claim 1.

In addition, Ireton does not disclose: (1) "routing the instruction <u>to a data string manipulation circuit</u> capable of performing string manipulation instructions" and (2) "routing an address of cached data matching the test data string <u>to the data string manipulation circuit</u>" (emphasis added). With reference to these two limitations, the Office Action asserts that the instruction fetch control 30 of Ireton is the "data string manipulation circuit" recited in the first limitation and that the instruction decode unit 14 is the same "data string manipulation circuit" recited in the second limitation. Again, such an inconsistent interpretation of Ireton is improper and still does not disclose the method of Claim 1.

Furthermore, neither the instruction fetch control 30 nor the instruction decode unit 14 performs the recited acts described with reference to the data string manipulation circuit of Claim 1, and neither is disclosed as performing string manipulation instructions. Rather, the instruction fetch control 30 of Ireton <u>forms</u> a fetch address for an instruction (see col. 6, lines 5–7), and the instruction decode unit 14 receives the subject instruction, not an address of cached data matching a test data string (see col. 5, lines 55–62).

Because Ireton does not teach each and every element as recited and arranged in amended Claim 1, Applicant respectfully submits that Claim 1 is not anticipated by Ireton. Applicant, therefore, respectfully requests the rejection under 35 U.S.C. § 102(e) to be withdrawn.

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Independent Claims 12 and 31

Independent Claims 12 and 31 are believed to be patentably distinguished over Ireton for reasons similar to those set forth above with respect to amended independent Claim 1 and for the different aspects recited therein.

Dependent Claims 2, 4, 14-16, 21, 29, 36 and 39

Claims 2 and 4 depend from independent Claim 1 and are believed to be patentably distinguished over Ireton for the reasons set forth above with respect to Claim 1 and for the additional features recited therein.

Claims 14–16 and 21 depend from independent Claim 12 and are believed to be patentably distinguished over Ireton for the reasons set forth above with respect to Claim 1 and for the additional features recited therein.

Claims 36 and 39 depend from independent Claim 31 and are believed to be patentably distinguished over Ireton for the reasons set forth above with respect to Claim 1 and for the additional features recited therein.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

The Office Action rejected Claims 3, 5–11, 13, 17–20, 22, 32–35, 37, 38, 40–47 and 49 under 35 U.S.C. § 103(a). In particular, Claims 3, 8, 9, 13, 18, 19, 24–26 and 32–34 were rejected as being unpatentable over Ireton in view of Wan. Claims 5–7 and 22 were rejected as being unpatentable over Ireton in view of Sach. Furthermore, Claims 10, 11, 17, 20, 35, 37, 40–46 and 49 were rejected as being unpatentable over Ireton in view of Tran. Claim 38 was rejected as being unpatentable over Ireton in view of Hicks. Claim 47 was rejected as being unpatentable over Ireton in view of Tran and in further view of Hicks.

For the reasons set forth below, Applicant respectfully disagrees with the rejections and the Office Action's characterization of each of Ireton, Wan, Sach, Tran and Hicks.

Independent Claim 40

Amended independent Claim 40 is believed to be patentably distinguished over the cited references for reasons similar to those set forth above with respect to the

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patentability of amended independent Claim 1 and for the different aspects recited therein.

That is, neither Ireton nor Tran, nor a combination thereof, teaches or suggests means for searching at least one cache line, wherein the means for searching receives a starting address for a search operation of at least one cache line and aligns a data value with an offset of the starting address to search the at least one cache line in one clock cycle for cached data that matches the data value. As discussed above, Ireton appears to teach forming a fetch address and locating an instruction that corresponds to the fetch address. The portion of Tran cited by the Office Action (i.e., Figure 4D) appears to depict a timing diagram illustrating consecutive instruction fetches from an instruction cache.

Dependent Claims 3, 5–11, 13, 17–20, 22, 32–35, 37, 38, 41–47 and 49

Claims 3 and 5–11 depend from independent Claim 1 and are believed to be patentably distinguished over the cited references for the reasons set forth above with respect to Claim 1 and for the additional features recited therein.

Claims 13, 17–20 and 22 depend from independent Claim 12 and are believed to be patentably distinguished over the cited references for the reasons set forth above with respect to Claim 12 and for the additional features recited therein.

Claims 32–35, 37 and 38 depend from independent Claim 31 and are believed to be patentably distinguished over the cited references for the reasons set forth above with respect to Claim 31 and for the additional features recited therein.

Claims 41–47 and 49 depend from independent Claim 40 and are believed to be patentably distinguished over the cited references for the reasons set forth above with respect to Claim 40 and for the additional features recited therein.

REQUEST FOR TELEPHONE INTERVIEW

Pursuant to M.P.E.P. § 713.01, in order to expedite prosecution of this application, Applicant's undersigned attorney of record hereby formally requests a telephone interview with the Examiner as soon as the Examiner has considered the

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effect of the arguments presented above. Applicant's attorney can be reached at the general office number listed below.

CONCLUSION

In view of the foregoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be resolved, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11 1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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